



COMPARISON OF METABOLIC PARAMETERS OF OFFSPRING'S BLOOD DEPENDING ON THE LEVEL OF GLYCEMIA DURING PREGNANCY

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Introduction. According to the theory of fetal programming, hyperglycemia leads to negative impact on pregnancy and delivery, contributes to both short-term and long-term complications on the fetus, newborn, child and adult throughout the lifespan [1]. Based on the results of the HAPO study, a number of negative consequences of the effect of GDM on the health of children and mothers have been identified [2]. Most likely, development of consequences in the form of a metabolic status disorder is possible. The impact of gestational diabetes mellitus (GDM) on fetal development and the future health of the child need further studying.

Aim. To compare the impact of glycemia during pregnancy on the children's metabolic status.

Methods. GDM was confirmed by determining the level of glycemia during the oral glucose tolerance test in pregnant women. Later, women adhered to diet therapy or were treated with insulin. Depending on the achievement of the target glycemia, the women were divided into groups. Target glycemia was considered fasting glycemia less than 5.3 mmol / L and / or 7.8 mmol / L after 1 hour postprandial more than 70% of the measurements. Non-target - fasting glycemia more than 5.3 mmol / l and / or 7.8 mmol / l after 1 hour postprandial more than 30% of the measurements. The study included 43 children at the age of 6 months, born to mothers with GDM. Group 1 (n = 28) included children, from pregnancies with target glycemia, Group 2 (n = 15) - non-target. The level of glucose, insulin, cholesterol and triglycerides of children's plasma was studied. Statistical analysis was carried out by evaluating the significance of differences in mean values using Student's t-test.

Results. When comparing the glucose level between groups (group 1 4.63 ± 0.56 mmol/L, group 2 4.78 ± 0.55 mmol/L) no differences were found ($p = 0.42$). The level of insulin (group 1 16.05 ± 14.07 mmol/L, group 2 16.07 ± 11.3 mmol/L) also did not differ ($p = 0.79$). A similar situation was observed in the evaluation of cholesterol (group 1 3.93 ± 0.66 mmol/L, group 2 3.53 ± 0.73 mmol/L, $p = 0.41$) and triglycerides (group 1 1.1 ± 0.75 mmol/L, group 2 0.95 ± 0.54 mmol/L, $p = 0.31$).

Conclusions. According to the results of the study, the level of glycemia during pregnancy did not affect the indices of glucose, insulin, cholesterol and triglycerides of 6 months children. A final evaluation requires further dynamic observation.

Bibliography.

- [1] - Godfrey KM., and Barker DJ. Fetal programming and adult health. *Public Health Nutr.* 2001; 4: pp. 611-624.
[2] - HAPO Study Cooperative Research Group. Hyperglycemia and Adverse Pregnancy Outcome (HAPO) Study Cooperative Research Group. Hyperglycemia and adverse pregnancy outcomes. *N Engl J Med* 2008; 358: pp.1991–2002.

